GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3668/1
Permit Holder:	Shire of Dardanup
Duration of Permit:	13 June 2010 – 13 June 2015

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of road widening.

2. **Land on which clearing is to be done**
   Crooked Brook Road reserve (Crooked Brook 6236)
   Crooked Brook Road reserve (Dardanup 6236)

3. **Area of Clearing**
   The Permit Holder must not clear more than 3.1 hectares of native vegetation within the area shaded yellow on attached Plans 3668/1a and 3668/1b.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. **Type of clearing authorised**
   This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the *Local Government Act 1995* or any other written law.

6. **Clearing not authorised**
   The Permit Holder shall not clear any native vegetation within the western side of Crooked Brook Road reserve between 0.2 and 1km north of the Twomey Road intersection.

7. **Compliance with Assessment Sequence and Management Procedures**
   Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

8. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

(a) avoid the clearing of native vegetation;
(b) minimise the amount of native vegetation to be cleared; and
(c) reduce the impact of clearing on any environmental value.

9. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
(b) shall not move soils in wet conditions;
(c) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
(d) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III - RECORD KEEPING AND REPORTING

10. Records must be kept

In relation to the clearing of native vegetation authorised under this Permit:

(a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
(b) the date that the area was cleared; and
(c) the size of the area cleared (in hectares).

11. Reporting

(a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 10 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.

(b) Prior to 13 March 2015, the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

dieback means the effect of *Phytophthora* species on native vegetation;

dry conditions means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

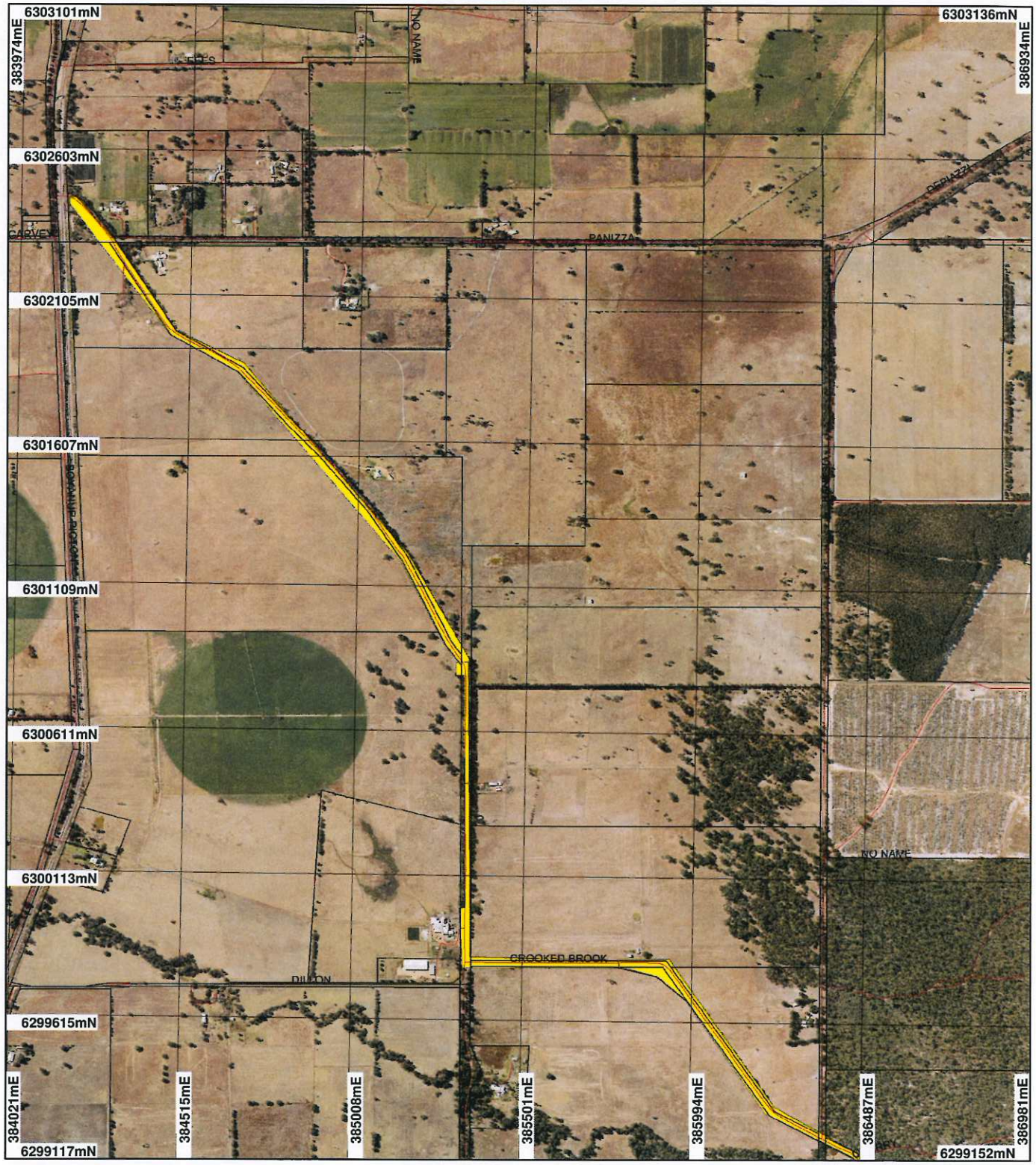
weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20
of the Environmental Protection Act 1986

13 May 2010

Plan 3668/1a



LEGEND

Clearing Instruments

- Areas Approved to Clear
- Road Centrelines
- Cadastre

Bunbury 50cm Orthomosaic - Landgate 2006

N

0 ~500 m

Scale 1:17522
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion of measurement inaccuracies.

K. Faulkner Date 13/5/10.

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Department of **Environment and Conservation**

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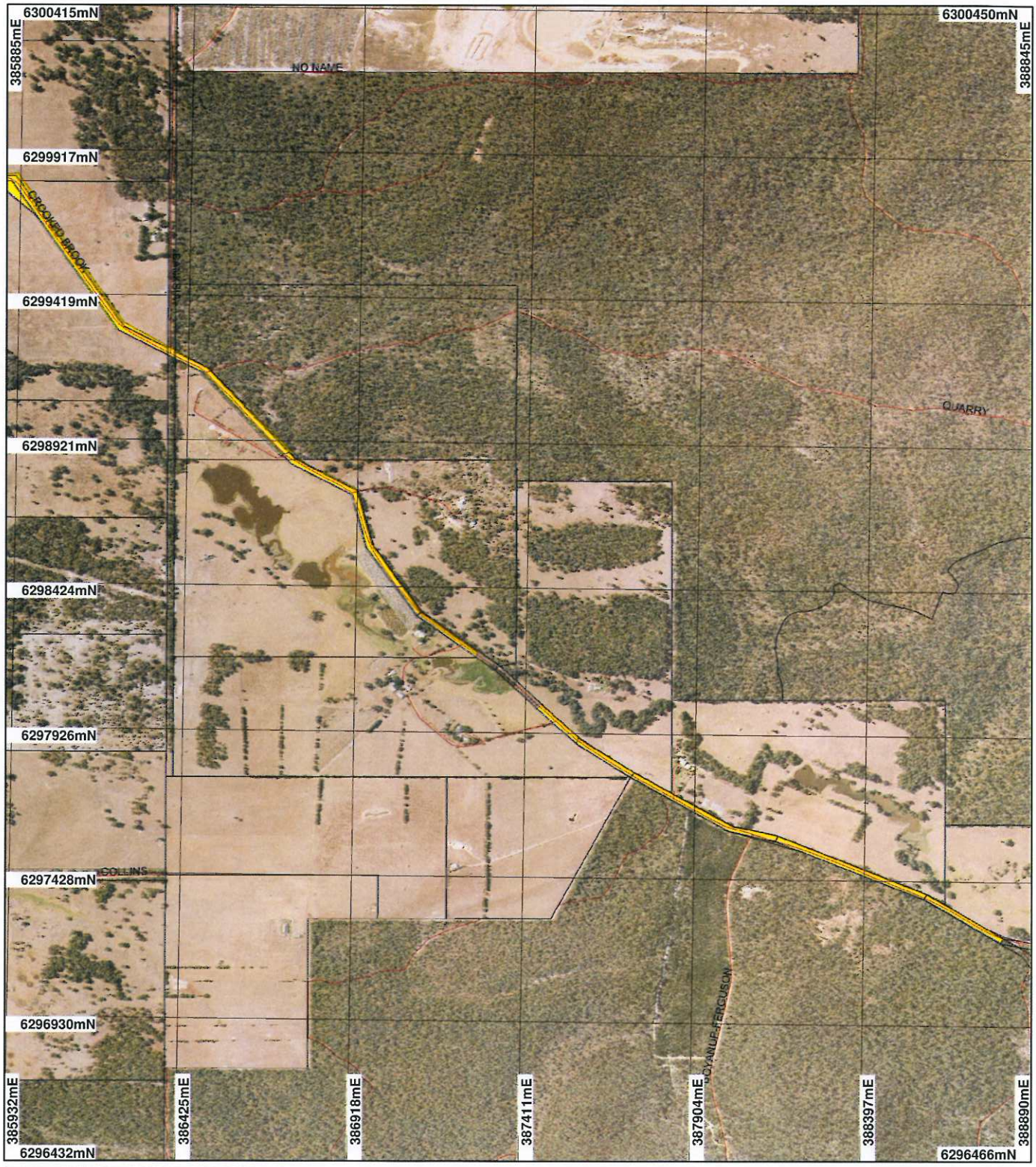
Plan 3668/1b



LEGEND

Clearing Instruments

- Areas Approved to Clear
- Road Centrelines
- Cadastre

Bunbury 50cm Orthomosaic - Landgate 2006

N

0 ~500 m

Scale 1:17519
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

K. Faulkner Date 13/5/10.

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Department of Environment and Conservation

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Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3668/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Shire of Dardanup**

1.3. Property details

Property: ROAD RESERVE (CROOKED BROOK 6236)
ROAD RESERVE (DARDANUP 6236)
Local Government Area: Shire of Dardanup
Colloquial name: Crooked Brook Road reserve

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.1		Mechanical Removal	Road construction or maintenance
		Mechanical Removal	Road construction or maintenance
		Mechanical Removal	Road construction or maintenance

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation associations: 968 - as medium forest; Medium woodland; jarrah, marri & wandoo. 1182 - Medium woodland; Eucalyptus rudis & Melaleuca rhaphiophylla (Shepherd, 2007) Association 1182 - Medium woodland; Eucalyptus rudis & Melaleuca rhaphiophylla	The area under application consists of 3.1 hectares of native vegetation. The condition of the vegetation has been assessed as ranging from completely degraded (occurring alongside farmland) to excellent (occurring alongside State Forest) (Keighery 1994).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the vegetation was determined from a site visit conducted by Department of Environment and Conversation (DEC, 2010a) and from aerial imagery (Bunbury 50cm Orthomosaic - Landgate 2006).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal is not likely to be at variance to this Principle

The Shire of Dardanup proposes to clear 3.1ha of native vegetation within Crooked Brook Road reserve for the purpose of widening the existing road. The proposal is to clear approximately 2m on either side of the road between Boyanup Picton Road and Quinderup Road.

The vegetation under application is assessed as ranging from completely degraded (occurring alongside farmland) to excellent (occurring alongside State Forest) (Keighery, 1994) condition (DEC, 2010a).

A number of priority flora species were recorded within the local area and *Synaphea polypodioides* was recorded within the southern portion to the application area. However, DEC (2010b) site visit did not find any populations of this taxa within the application area.

Eight indigenous fauna species were recorded within the local area (10km radius). Given the application area boarders two conservation reserves it is unlikely that this area is necessary for the maintenance of survival of any of these species.

The long linear application area is not likely to significantly affect surface or ground water, environmental values of neighbouring conservation reserves nor is it likely to cause significant land degradation.

Therefore, the proposal is not likely to at variance to this principle.

Methodology

DEC (2010a)
DEC (2010b)
Keighery (1994)

GIS database:
- Bunbury 50cm Orthomosaic - Landgate 2006
- SAC Biodatasets - accessed 04/04/10

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is not likely to be at variance to this Principle

Eight fauna species of conservation significance were recorded within the local area (10km radius). The closest recorded fauna species to the application area was the Western Ringtail Possum which was recorded 1.2km to the North.

Given the application area borders two conservation reserves it is unlikely that the vegetation under application is necessary for the maintenance of survival of any of these species.

Therefore, this proposal is not likely to be at variance to this principle.

Methodology

GIS database:
- SAC Biodatasets - accessed 04/04/10
- DEC Managed Lands

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments

Proposal is not likely to be at variance to this Principle

Within the local area (10km radius), 6 priority flora species were recorded on the same vegetation and soil type; *Acacia semitrullata* (P4), *Chamelaucium sp. Yoongarillup* (P4), *Gastrolobium whicherense* (P2), *Synaphea polypodioides* (P3), *Carex terticaulis* (P1)and *Thomasia laxiflora* (P2).

Synaphea polypodioides was located within the southern end of the application area. Seven other records of this species were identified within the local area. A site visit conducted by DEC (2010b) did not find any populations of *Synaphea polypodioides* within the application area.

The other priority flora species recorded on the same vegetation and soil type were located in neighbouring nature reserves.

Therefore, this proposal is not likely to be at variance to this principle.

Methodology

DEC (2010b)

GIS Database:
SAC Biodatasets - accessed 04/04/10

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments

Proposal may be at variance to this Principle

The vegetation on the western side of Crooked Brook Road, extending from approximately 0.2 to 1km north of Twomey Road has been inferred as an occurrence of the critically Endangered TEC FCTO3c "Eucalyptus calophylla, Xanthorrhoea preissi woodlands and shruclands" (DEC, 2010a). Although this area is small it is able to sustain a plant community in a predominately good (Keighery, 1994) condition. The eastern side of this section of road has lost nearly all its under storey and as such is suitable for clearing in order to widen the road (DEC, 2010a).

To avoid disturbance to the inferred TEC a condition has been added to the permit only allowing clearing on the eastern side of Crooked Brook Road between 0.2 and 1km north of the Twomey Road intersection.

Considering the above, this proposal may be at variance to this principle.

Methodology DEC (2010a)

GIS Database:
- SAC Biodatasets - accessed 04/04/10
- Pre European Vegetation - DA 01/01
- Soils, Statewide DA 11/99

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments **Proposal is not likely to be at variance to this Principle**

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregions*			
Swan Coastal Plain	1 501 208.80	583 140.87	38.84
Jarrah Forrest	4 506 655.58	2 440 940.64	54.16
Shire*			
Dandaragan	52 843.67	25 663.84	48.57
Beard Vegetation Association*			
968	301 120.98	103 386.85	34.33
1182	23 437.09	6 548.61	27.94
Beard Vegetation Association with Bioregion*			
968 in Swan Coastal Plain	136 118.62	8 637.93	6.34
1182 in Jarrah Forest	11 127.64	5 143.62	46.22
Heddle Vegetation Complex			
Guildford Complex	92 497	4662	5

* (Shepherd et al. 2007)

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

Within the Shire of Dardanup there is approximately 48.57% of native vegetation remaining and within the local area (10km radius) there is approximately 30% vegetation remaining.

Although vegetation association 1182 and 968 (within the Swan Coastal Plain bioregion) retain less than this 30% threshold level, the vegetation under application is not considered to be representative of these vegetation types.

Therefore, the proposed clearing is not likely to be at variance to this principle.

Methodology Commonwealth of Australia (2001)
Shepherd et al. (2007)

GIS Databases:
- Local Government Authorities - DLI 8/07/04
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 04/04/10

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments **Proposal is not likely to be at variance to this Principle**
Within the local area (10km radius) approximately 20 Environmental Protection Policy (EPP) lakes were recorded. The closest EPP Lake to the area under application was recorded 2km to the north.

The application area falls within a Palusplain wetland however, this type of wetland within the Swan Coastal Plain is totally degraded and so the proposed clearing is not likely to impact on the remaining values of this wetland.

The original application proposed to clear riparian vegetation however, in response to advice from the Department of Water this section of clearing has been removed from the application.

Considering the above it is not likely that this proposal will be at variance to this principle.

Methodology GIS Databases:
- EPP Lakes Policy Area - DEP 14/05/97
- Hydrography linear - DOW 13/7/06

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments **Proposal is not likely to be at variance to this Principle**
The chief soils of the applied clearing area are described by Northcote et al (1960-68) as:

Tc5 - dissected plateau at low elevation of gently undulating to low hilly relief and characterized by extensive block laterite and lateritic (ironstone) gravels; some swamps: chief soils on slopes and undulating areas generally are hard acidic yellow mottled soils (Dy3.61) containing small to very large amounts of ironstone gravels.

Wd6 - Plain: chief soils are sandy acidic yellow mottled soils (Dy5.81), some of which contain ironstone gravel.

Cb16 - Coastal dunes and flats: dunes of leached sands (Uc2.33 and Uc4.33) and minor areas (Uc2.21) parallel with the coast; and near the coast some areas of deep calcareous sands (Uc1.11).

The proposal to widen the existing road may cause some short term land degradation issues resulting from water and wind erosion. However, given the narrow linear application area these impacts are not likely to be appreciable.

Therefore, this proposal is not likely to be at variance to the principle.

Methodology Northcote et al (1960-68)

GIS database:
- Average Annual Rainfall Isohyets - WRC 29/09/98
- Hydrography, linear - DOW 13/7/06
- Soils, Statewide DA 11/99
- Topographic contours statewide - DOLA and ARMY 12/09/02

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposal is not likely to be at variance to this Principle**
The application area borders Boyanup State Forest. The Dardanup Conservation Park is located 400 metres to the east of the application area and Wellington National Park is 7km to the east.

Given the small scale of proposed clearing, it is not likely to significantly impact the environmental values of these reserves, additionally the ecological corridors between them are not likely to be significantly impacted.

Due to the application area's proximity to state forest a weed and dieback conditions has been added to the permit.

Therefore, this application is not likely to be at variance to this principle.

Methodology GIS Databases:
- DEC Tenure - DEC Sept 08

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposal is not likely to be at variance to this Principle**
The area under application falls within an area proclaimed under the Rights in Water and Irrigation Act 1914 (Bunbury RIWI groundwater area). However, due to the long linear application area it is unlikely that the proposed clearing will deteriorate surface or groundwater quality.

Therefore, it is not likely that this proposal will be at variance to this principle.

Methodology GIS database:
- Hydrography, linear - DOW 13/7/06
- RIWI Act, Groundwater Areas - DoW 13/07/06
- RIWI Act, Irrigation Districts - DoW 13/07/06

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments **Proposal is not likely to be at variance to this Principle**
The proposed clearing is unlikely to cause or exacerbate flooding and therefore is not likely to be at variance to this principle.

Methodology GIS Databases:
- Hydrography linear - DOW 13/7/06
- SAC Biodatasets - accessed 04/04/10

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

Crooked Brook is a proclaimed waterway under the Rights in Water and Irrigation Act 1914. Department of Water has advised that they have not objection to the proposed clearing of the road reserve for the purpose of road widening (DoW, 2010).

Crooked Brook runs parallel with Crooked Brook Road and at one point intersects it. The original application proposed to clear at this intersection. Advice received from the Department of Water indicated that the proposed works associated with the crossing of Crooked Brook would require a license to interfere with bed and /or banks (DoW, 2010). The applicant has requested to remove this section (100 meters either side of Crooked Brook) of clearing from the application to avoid delays associated with obtaining this license.

Methodology DoW (2010)

4. Assessor's comments

Comment

The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the clearing as proposed may be at variance to principle (d) and is not likely to be at variance to any of the remaining principles.

5. References

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Department of Environment and Conservation (2010a) Site Inspection Report for Clearing Permit Application CPS 3668/1, Crooked Brook Road reserve, Crooked Brook. Site inspection undertaken 30/04/2010. Department of Environment and Conservation, Western Australia (DEC Ref. A301973).

Department of Environment and Conservation (2010b) Additional flora advice (DEC Ref: A303821).

Department of Water (2010) Righs in Water and Irrigation advice (DEC Ref: A301726).

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management (now DEC)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment (now DEC)
DoW	Department of Water
DMP	Department of Mines and Petroleum (ex DoIR)
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)